

Work Order ID 129599

February-19-15 8:06:19 AM

129599

~~PRELIMINARY ISSUE~~

DAS
9
9-89 *LeB*

Page 1

Item ID: D4961-041 Accept *N9000040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Tube Assembly
 Start Date: 2/19/15 Start Qty: 4.00 *4* Cust Item ID:
 Required Date: 3/06/15 Req'd Qty: 4.00 *4* Customer:
 Reference:

Approvals: Process Plan: *W* Date: Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr	DAS							
D4961	<i>B2 B</i>	<i>9-89</i>							

110 0.00

110

Small Fab

Small Fab

Memo

1- Cut D4961-1 tube to size as per dwg

2- On one side of tube flare end as per dwg then slide sleeves and nuts, flare other side of tube as per dwg.

4 FF FEB 19 2015

120 QC5- Inspect part completeness to step on W/O 0.00

120

QC

Quality Control

Memo

0.00

(4) DAS
38
9-89
FEB 20 2015

130 Identify as per dwg & Stock Location: *PRELIM* 0.00

130

Packaging

Packaging

Memo

0.00

(4) 15-02-20 DAS
38
9-89

Work Order ID 129599

February-19-15 8:06:19 AM

129599

Page 2

Item ID: D4961-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Tube Assembly
 Start Date: 2/19/15 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 3/06/15 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

MLJ JUL 09 2015

Handwritten signature and date: 15.2.23

POSITIVE RECALL
 EFFECTIVE 5-07-19 AUTH U
 RELEASED 9-89 DATE 15-07-09

*Release
low B*

Picklist Print

February-19-15 8:06:19 AM

Page 1

Work Order ID: 129599

129599

Parent Item: D4961-041

D4961-041

Parent Item Name: Tube Assembly

Start Date: 2/19/15

Required Date: 3/06/15

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A 13.10.22 NEW ISSUE DD VERF:JFS
REV:B 15.02.18 AS PER DWG REV.B DD VERF:JFS

IPP

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN818-L12J		Purchased	No			110	Each	18.0000	2	8			

AN818-I 12.I

Nut

FF

FEB 19 2015

Location

Loc Qty

Loc Code

ST325

18

m130903

18

M304TR0.750W.049

Purchased

No

110

f

178.6000

0.7

3

M304TR0 750W 049

304 RD Tube .750 x .049W

FF

FEB 19 2015

Location

Loc Qty

Loc Code

GA002

178.6

M128084

4

M129363

45.9

M130292

128.7

MS20819-12J

Purchased

No

110

Each

14.0000

2

8

MS20819-12.I

Sleeve

FF

FEB 19 2015

Location

Loc Qty

Loc Code

ST306

14

m129339

4

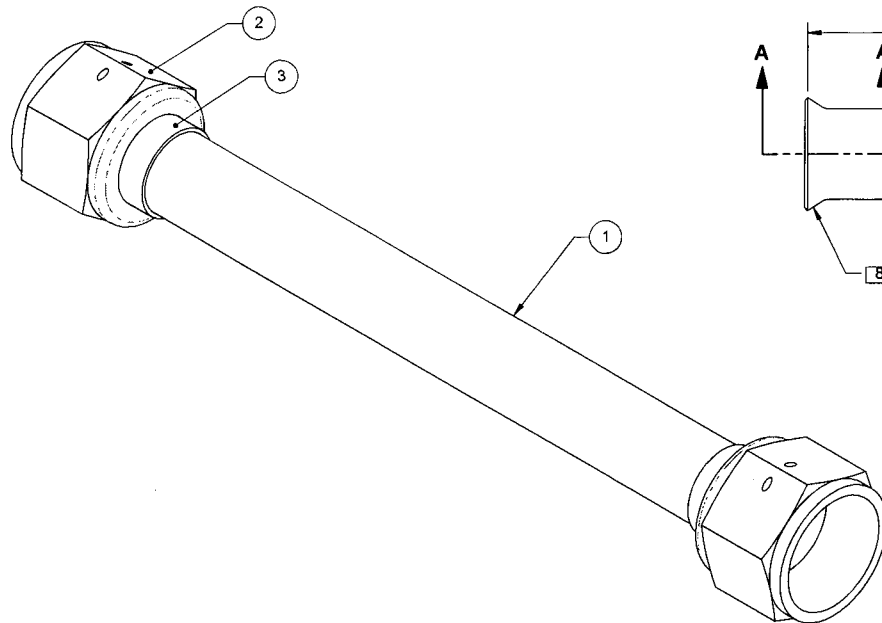
m131340

10

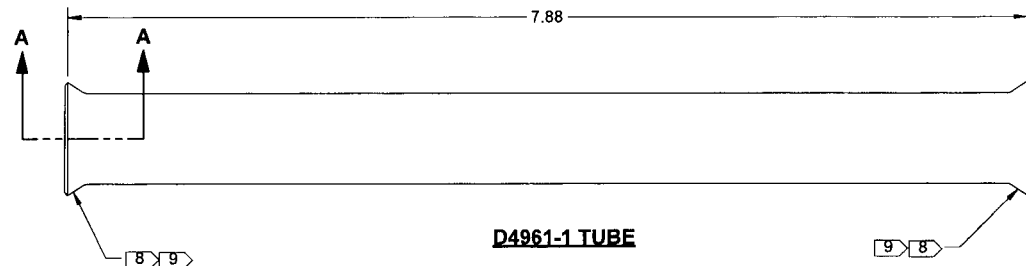
ITEM	QTY -041	P/N	DESCRIPTION
	X	D4961-041	TUBE ASSEMBLY
1	1	D4961-1	TUBE
2	2	AN818-L12J	NUT, TUBE COUPLING (DRILLED)
3	2	MS20819-12J	SLEEVE

PRELIMINARY ISSUE

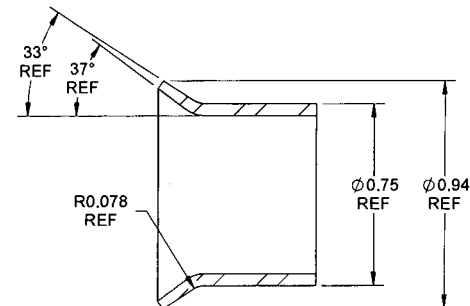
AK 14.11.07



D4961-041 TUBE ASSEMBLY



D4961-1 TUBE



SECTION A-A

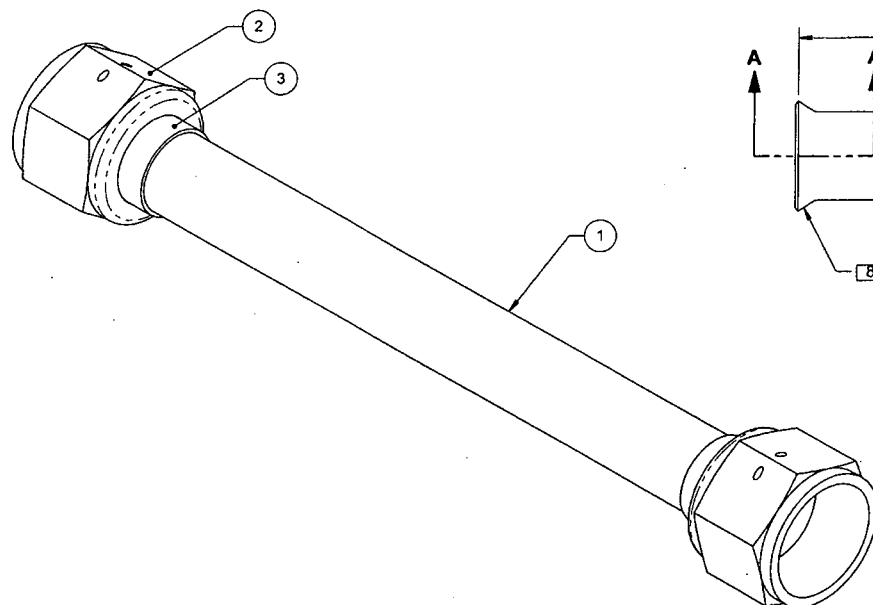
NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SEAMLESS ROUND TUBING, $\phi 0.750 \times 0.049$ WALL PER ASTM A213 OR ASME SA213 OR ASTM A269 (REF DART SPEC M304TR)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.59 lbs
- 8) FLARE TUBE PER MS33584
- 9) CLEAN INSIDE OF TUBE AFTER FLARING ENDS

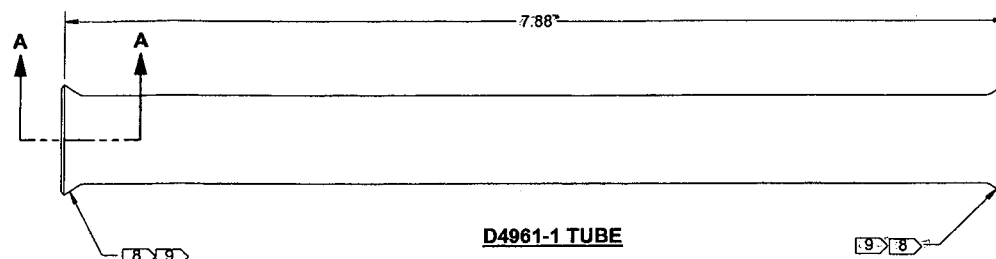
WORK IN PROGRESS

B	UPDATED BOM P/N AN818-L12J WAS AN818-12J. ADDED SHEET 2 (D4961-043)	AK	14.11.07
A	NEW ISSUE	VS	13.10.21
REV.	DESCRIPTION	BY	DATE
DESIGN	VS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4961 REV. B2 SHEET 1 OF 2 TITLE TUBE ASSEMBLY SCALE NTS COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	AK		
CHECKED	RF		
MFG. APPR.	DD		
APPROVED	DS		
DE APPR.	DS		
DATE	14.11.07		

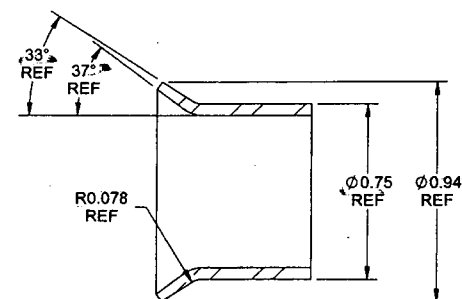
ITEM	QTY	P/N	DESCRIPTION
	X	D4961-041	TUBE ASSEMBLY
1	1	D4961-1	TUBE
2	2	AN818-L12J	NUT, TUBE COUPLING (DRILLED)
3	2	MS20819-12J	SLEEVE



D4961-041 TUBE ASSEMBLY



D4961-1 TUBE



SECTION A-A

RELEASED

2015 APR 30

ECN 15-527

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SEAMLESS ROUND TUBING, $\phi 0.750 \times 0.049$ WALL PER ASTM A213 OR ASME SA213 OR ASTM A269 (REF DART SPEC M304TR)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
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A	NEW ISSUE	VS	13.10.21
REV.	DESCRIPTION	BY	DATE
DESIGN	VS		
DRAWN	AK		
CHECKED	RF		
MFG. APPR.	DD		
APPROVED	HS		
DE APPR.	DS		
DATE	14.11.07		

APPROVED

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
D4961

TITLE
TUBE ASSEMBLY

REV. B
SHEET 1 OF 2

SCALE
NTS

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Page 1 of 1

All amounts are calculated in domestic currency.

All Vendors PO ID PO24374 Receipt Dates from 6/3/2014 to 6/3/2014 All Line Item Types
All Item ID/GL/WOs All Rec. Employees All Currencies
Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	PO Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
VendorID/Vendor Name		VC-MAR001	Marmon/Keystone Canada Ltd.								
PO24374	1		M304TR0.750W.049 f		6/4/2014	6/3/2014	400.0000	\$1.71	0.0000	0	\$682.50
CAD	No		304 RD Tube .750 x f		400.0000	DESJ02		\$682.50	0.0000	0	
			049W								
			m129363								
	2		71401-45		6/4/2014	6/3/2014	1.0000	\$0.00	0.0000	0	\$0.00
	No		PROCUREMENT		1.0000	DESJ02		\$0.00	0.0000	0	
			QUALITY CLAUSES								
			m129363								
Total Received Quantity:											401.0000
Total Qty to Inspect (PO U/M):											0.0000
Total Reject Quantity:											0.0000
Total Receipt Value:											\$682.52
Total Balance Due Quantity:											0.0000



Marmon/Keystone Canada Inc.

ACIERS SPÉCIALISÉS

290 Chemin du Tremblay
Boucherville QU CAN J4B 5X9
TEL. 514/527-9153
FAX. 450/641-4357

PACKING SLIP

PAGE... 1
Order : 1147162
Date... 05/30/2014

SOLD TO:

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY ON CAN K6A 1K7

SHIPPED TO:

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY ON CAN K6A 1K7

SHIP VIA		F.O.B.	SALESPERSON	YOUR ORDER NO.	
TST OVERLAND #222212		BOUCHERVILLE	C. Gee	PO24374	
Ordered	Description	Number Pieces	Quantity Shipped	Back Ordered	
01	Fax all papers to Linda Lacelle 613-632-1053 rev: 01/11 GD STAINLESS STEEL SEAMLESS TUBE SMLS TUBE 304L 3/4 X .049 A213 STS .750 .049 304L Tariff Number: 7304.41.99.90 Cust. part#: M304TR0.750W.049 HT#.....: YT20919 HT#.....: YT30540 HT#.....: YT30761 Total...	17 2 1 20	340/FT 40/FT 20/FT 400/FT	✓	

Packaging:

Total Weight.....: 146.8

Customers.: _____



A Marmon Distribution Services/Berkshire Hathaway Company



SHANGHAI CRYSTAL PALACE PIPE CO., LTD

LAO GANG, PUDONG NEW AREA DISTRICT, SHANGHAI, CHINA

MILL TEST CERTIFICATE

ISO9001:2008 ; PED Material CERTIFICATE (No.: QAC0021058/A)

DATE OF ISSUE: 2013/11/3

CUSTOMER: MARMON/KEYSTONE CANADA INC.						CERTIFICATE NO.: 2013-7-17-D-1						
P.O.NO.: MN3758						ORDER NO.: 2013-07-017-D						
COMMODITY: STAINLESS STEEL SEAMLESS TUBING						GRADE: ASTM A213-11a/ASME SA213-10 TP304/TP304L						
CONDITION: COLD FINISH / SOLUTION TREATED / PICKLED / PLAIN END						HEAT NO.: KT30540						
CHEMICAL CONTENTS (WT%)												
ELEMENTS	C	Mn	P	S	Si	Ni	Cr					
SPECIFICATION	≤ 0.035	≤ 2.00	≤ 0.040	≤ 0.030	≤ 0.75	8.0~11.0	18.0~20.0					
RESULTS (LADLE)	0.024	1.03	0.039	0.004	0.38	8.08	18.15					
PHYSICAL PROPERTIES												
Dimensions			Bundle No.	Pieces	Weight (kg)	0.2%YS (Mpa) ≥ 205	T S (Mpa) ≥ 515	EL (%) ≥ 35	FLARING TEST	FLATTENING TEST	HARDNESS HRB ≤ 80	EDDY CURRENT TEST TO E426 (100%) OK (DRILLED HOLE)
O.D (inch)	W.T (inch)	Length (feet)										
0.750	0.049	20	13-8-165	250	841	255	660	63.5	OK	OK	76	
REMARKS:						1. WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND THE TEST RESULTS ARE IN COMPLIANCE WITH THE TERMS OF THE PURCHASE ORDER OR CONTRACT						
AS PER ASTM A213-11a/ASME SA213-10						2. THE CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE COMPANY.						
WALL THICKNESS TOLERANCE AS PER ASTM A269-10						SHANGHAI CRYSTAL PALACE PIPE CO., LTD						
IN COMPLIANCE TO NACE MR0175-2003						 Q.C. Reviewed SR12/16/13						
IC TEST TO ASTM A262 PRACTICE E												
SOLUTION HEAT TREATMENT: 1050°C X 1.5m/min												
NO WELD REPAIR WAS PERFORMED												
FREE FROM MERCURY CONTAMINATION						MANAGER OF QUALITY ASSURANCE DEPARTMENT / DING WEI-GUO						
COUNTRY OF ORIGIN: CHINA												
MILL TEST CERTIFICATE TO EN 10204/3.1												
INVOICE NO: YK-13-11-13												

SIS- .750- .049- -304L * Y130540 * 1000667 * MN3758 * 12/16/2013



CRYSTAL-PALACE

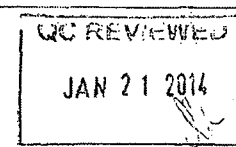
SHANGHAI CRYSTAL PALACE PIPE CO., LTD

LAO GANG, PUDONG NEW AREA DISTRICT, SHANGHAI, CHINA

MILL TEST CERTIFICATE

ISO9001:2008 ; PED Material CERTIFICATE (No.: QAC0021058/A)

DATE OF ISSUE: 2013/12/8

CUSTOMER: MARMON/KEYSTONE CANADA INC.							CERTIFICATE NO.: 2013-8-14-D-6								
P.O.NO.: BN3818							ORDER NO.: 2013-08-014-D								
COMMODITY: STAINLESS STEEL SEAMLESS TUBING							GRADE: ASTM A213-11a/ASME SA213-10 TP304/TP304L								
CONDITION: COLD FINISH / SOLUTION TREATED / PICKLED / PLAIN END/ OD POLISHED 400 GRIT							HEAT NO.: YT30761								
CHEMICAL CONTENTS (WT%)															
ELEMENTS		C		Mn		P		S		Si		Ni		Cr	
SPECIFICATION		≤ 0.035		≤ 2.00		≤ 0.040		≤ 0.030		≤ 0.75		8.0~11.0		18.0~20.0	
RESULTS (LADLE)		0.024		1.12		0.039		0.004		0.41		8.09		18.10	
PHYSICAL PROPERTIES															
Dimensions			Bundle No.	Pieces	Weight (kg)	0.2%YS (Mpa) ≥ 205	TS (Mpa) ≥ 515	EL (%) ≥ 35	FLARING TEST	FLATTENING TEST	HARDNESS HRB ≤ 80	EDDY CURRENT TEST TO E426 (100%)			
O.D (inch)	W.T (inch)	Length (feet)													
0.750	0.049	20	Z13-10-190	100	337	320	675	59.0	OK	OK	77	OK (DRILLED HOLE)			
1.250	0.120	20	13-10-114	25	332	260	645	67.0	OK	OK	74	OK (DRILLED HOLE)			
1.500	0.120	20	Z13-10-86	25	406	280	670	65.0	OK	OK	76	OK (DRILLED HOLE)			
REMARKS: AS PER ASTM A213-11a/ASME SA213-10 IN COMPLIANCE TO NACE MR0175-2003 IC TEST TO ASTM A262 PRACTICE E SOLUTION HEAT TREATMENT: 1050°C X 1.5m/min NO WELD REPAIR WAS PERFORMED FREE FROM MERCURY CONTAMINATION COUNTRY OF ORIGIN: CHINA MILL TEST CERTIFICATE TO EN 10204/3.1 INVOICE NO: YK-13-12-21						1. WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND THE TEST RESULTS ARE IN COMPLIANCE WITH THE TERMS OF THE PURCHASE ORDER OR CONTRACT									
						2. THE CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE COMPANY.									
						SHANGHAI CRYSTAL PALACE PIPE CO., LTD									
						 MANAGER OF QUALITY ASSURANCE DEPARTMENT / DING WEI-GUO									
						 JAN 21 2014									



SHANGHAI CRYSTAL PALACE PIPE CO., LTD

LAO GANG, PUDONG NEW AREA DISTRICT, SHANGHAI, CHINA

MILL TEST CERTIFICATE

ISO9001:2008 ; PED Material CERTIFICATE (No.: QAC0021058/A) DATE OF ISSUE: 2012/10/2

CUSTOMER: MARMON/KEYSTONE CANADA INC.						CERTIFICATE NO.: 2012-7-10-C-4						
P.O.NO.: MN3141						ORDER NO.: 2012-07-010-C						
COMMODITY: STAINLESS STEEL SEAMLESS TUBING						GRADE: ASTM A213-10a TP304/TP304L						
CONDITION: COLD FINISH / SOLUTION TREATED / PICKLED / PLAIN END/ OD POLISHED 400 GRIT						HEAT NO.: YT20919						
CHEMICAL CONTENTS (WT%)												
ELEMENTS		C	Mn	P	S	Si	Ni	Cr				
SPECIFICATION		≤ 0.035	≤ 2.00	≤ 0.040	≤ 0.030	≤ 0.75	8.0~11.0	18.0~20.0				
RESULTS (LADLE)		0.025	0.74	0.040	0.005	0.38	8.07	18.11				
PHYSICAL PROPERTIES												
Dimensions			Bundle No.	Pieces	Weight (kg)	0.2%YS (Mpa) ≥ 205	TS (Mpa) ≥ 515	EL (%) ≥ 35	FLARING TEST	FLATTENING TEST	HARDNESS HRB ≤ 80	EDDY CURRENT TEST TO E426 (100%)
O.D (inch)	W.T (inch)	Length (feet)										
0.750	0.049	20	Z12-8-11	300	1010	280	630	61.0	OK	OK	75	OK (DRILLED HOLE)
REMARKS:						1. WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND THE TEST RESULTS ARE IN COMPLIANCE WITH THE TERMS OF THE PURCHASE ORDER OR CONTRACT						
AS PER ASTM A213-10a/ASME SA213-10						2. THE CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE COMPANY.						
WALL THICKNESS TOLERANCE AS PER ASTM A269-10						SHANGHAI CRYSTAL PALACE PIPE CO., LTD						
IN COMPLIANCE TO NACE MR0175-2003						 MANAGER OF QUALITY ASSURANCE DEPARTMENT						
IC TEST TO ASTM A262 PRACTICE E												
SOLUTION HEAT TREATMENT : 1050°C X 1.5m/min												
NO WELD REPAIR WAS PERFORMED												
FREE FROM MERCURY CONTAMINATION						Q.C. Reviewed SR11/08/12						
COUNTRY OF ORIGIN: CHINA												
MILL TEST CERTIFICATE TO EN 10204/3.1												
INVOICE NO: YK-12-09-73												

STS- .750- .049- -304L * YT20919 * 1000667 * MN3141 * 11/8/2012



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO24374

Purchase Order Date 5/28/2014

PO Print Date 5/28/2014

Page Number 1 of 2

Order From :
MARCON/KEYSTONE CANADA LTD.
290 CHEMIN DU TREMBLAY
BOUCHERVILLE, QC J4B 5X9
CA

VC-MAR001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED

Contact Name
Vendor Phone 800 361 8142

Ship To Contact
Ship To Phone
Ship Via: TST ground
Ship Acct:

Buyer
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	M304TR0.750W.049	304 RD Tube .750 x .049W	6/4/2014 Yes 6/4/2014		400.00 f	\$1.85	\$740.00
MATERIAL: AISI-304/316 SA SEAMLESS ROUND TUBING AS PER ASTM A213 OR AMSE SA213 OR ASTM A269							
Line Total:							\$740.00
2	71401-45	PROCUREMENT QUALITY CLAUSES	6/4/2014 No 6/4/2014		1.00	\$0.00	\$0.00
Procurement Quality Clauses A005 right of entry A012 chemical and physical test report A016 personnel qualification A017 raw material identification A026 certification of material conformance A041 quality management system A042 dart notification by supplier A043 retention of quality documents							

SP14-6-3

PO Instructions:

Note:

5/28/2014



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO24374

Purchase Order Date 5/28/2014

PO Print Date 5/28/2014

Page Number 2 of 2

Order From :

VC-MAR001

MARMON/KEYSTONE CANADA LTD.
290 CHEMIN DU TREMBLAY
BOUCHERVILLE, QC J4B 5X9
CA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 800 361 8142

Ship To Contact

Ship To Phone

Ship Via: TST ground

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Line Total: \$0.00

PO Total: \$740.00

PO Instructions:

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr:

1

Change Date: 5/28/2014